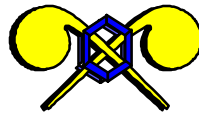


**MANSCEN**

**Directorate of Combat Developments**

**Chemical Division**

*24 October 2000*



# DCD (CHEM) UPDATE TO MG AADLAND

24 October 2000



# **DCD-Chemical Top Ten**

- 1. NBC Future Architecture to 2010 and Beyond in support of Army Transformation**
- 2. Military Support to Homeland Security**
- 3. Single Platform NBC Reconnaissance System with Integrated Battle Management**
- 4. Applications of Obscurants for Enhanced Survivability in Complex Terrain**
- 5. Missile Defense NBC Post Effects**
- 6. Corps Redesign/Functional Area Assessment**
- 7. Personnel Protection and Decontamination**
- 8. Science and Technology (S&T) in Support of Objective Force Capabilities (OFC)**
- 9. Maneuver Support Concepts Integration**
- 10. Organizational Reconstitution and Realignment**

# NBC Future Architecture to 2010 and Beyond

## **SITUATION**

- Commandant tasked DCD-CHEM to develop NBC Future Architecture
- Used as source document for CM Modernization Strategy development
- Used as source document for CM Vision 2020 development

## **MISSION**

- Develop NBC Future Architecture establishing the framework for the Chemical Corps' contributions to the Army Transformation strategy as we move to the Objective Force and beyond.
- Look at 2000, 2005, 2010, and 2015; with primary focus on 2010.
- Look at revolutionizing obscurants and decontamination.

## **EXECUTION**

- Conducted off-site.
- Established writing team.
- Conducted editorial review board 8-10 Aug 00.
- Conducted CoC w/ Cmdt and gained approval for World Wide Staffing.
- World-Wide staffing 10 Oct – 1 Dec 00.
- Will provide direct input to Army Modernization Plan.
- Package final product using MANSCEN Support Contract.

## **ISSUES**

- Slide presentation posted to DCD Web Site to initiate receipt of comments.
- Locking in dates for TRADOC review and approval of CM Modernization Strategy by 31 Dec 00.

# Army Transformation

## **SITUATION**

- Developing the path forward IAW CSA's vision.
- Working with USACMLS, MSBL, Armor School and other DCD Divisions.
- Battlestaff and one NBC Recon platoon are organic to the Brigade Combat Team.
- Augmentation requirements identified.

## **EXECUTION**

- Release of response to weekly taskers is approved by the USACMLS AC.
- NBC Recon IAV variant is included in IAV ORD.
- Meeting mission requirements.
- NBC RECON is embedded.
- Working appropriate organic CM Force structure required for IDIV and IACR.
- Participating in IDIV MAPEX, IACR Blue Ribbon Panel, and ARFOR Rock Drill.

## **MISSION**

- Ensure NBC Defense and Force Protection are adequately resourced in all stages of planning and developing the Interim Brigade, Division, ACR, and Corps.

## **ISSUES**

- M93 A1 FOX is current surrogate for 1<sup>st</sup> IBCT; however, the FOX has no biological detection or identification capability.
- As coordinated with DAMO FDB, M93A1 FOX will exercise O&O, TTPs, and C-130 Roll on/off. HMMWV will exercise C-130 Wheels-Up.
- Working availability of IAV-NBCRS or FOX for 2d IBCT.
- Working proper organic CM force structure needed for IDIV and IACR.

# Military Support to Homeland Security

## **SITUATION**

- Commandant tasked DCD-Chem to develop strategy for Chemical Corps support to Homeland Security mission.
- Consequence Management Program Integration Office (COMPIO) is dissolving and transitioning their roles and actions to applicable OSD/DA Commands.
- OSD is conducting internal mission analysis to determine right staff and unit responsibilities for HLS mission.

## **EXECUTION**

- Created briefing that outlined the Chemical Corps role and responsibilities in HLS.
- Presented the briefing at Office of the Surgeon General NBC 200 Conference July 00.
- Staffed 1<sup>st</sup> draft role and responsibilities paper throughout DA and select OSD reps.
- Supplied LTC Nickell, FLW HLS CoE Director, information for COMPIO PAT Participation.
- Reviewing / Staffing 1<sup>st</sup> draft of Army Strategic Plan for HLS.

## **MISSION**

- Develop HLS Strategy for the Chemical Corps.
- Integrate Chemical Corps HLS initiatives into Ft. Leonard Wood HLS Center of Excellence.
- Integrate Chemical Corps HLS initiatives into OSD/DA HLS Strategy and ensure our roles and responsibilities are understood and staffed across DA, OSD, and applicable inter-agencies.

## **ISSUES**

- Working to establish Ft. Leonard Wood HLS Center of Excellence (CoE) and Army HLS Integrated Concepts Team (ICT) at Ft. Leonard Wood.
- Developing ICT Charter, Meeting agenda, and Goals.
- Working with HLS CoE and SBCCOM National Protection Center to ensure Chemical Corps total force role is addressed in draft DA HLS Strategy.

# Single Platform NBC Reconnaissance System with Integrated Battle Management

## **SITUATION**

- CSA's vision for the medium force shapes NBC requirements to support the force.
- M93A1 FOX and BIDS when combined with UAV, UGV and UGS into an integrated package could afford ability to cover 10X increase in Corps AO
- JSLNBCRS, does not meet requirements to cover 10X increase in CORPS AO and does not meet the survivability requirements of the IBCT.
- Limited capability to access, monitor, assimilate, and disseminate NBC information throughout the battlespace to shape the battlefield.

## **EXECUTION**

- Created to embrace CSA's vision (NOV 99)
- NBC Annex to included into MAV ORD.
- NBCRS approved for initial Brigade.
- Battle Management Integrated Concept Team
- Under Contract

## **MISSION**

- Provide single vehicle NBC reconnaissance support to the Total Force across the spectrum of conflict
- Provide NBC Detection, Identification, Sampling, and Quantification for all levels of NBC Threat (I-III); point, remote, and stand off.
- Analyze and define near-, mid-, and long term capabilities and opportunities of NBC Battle Management.

## **ISSUES**

- Awaiting source selection of IAV (NOV) Staffing OMS/MP for NBCRS (Currently with OIS for Threat Integration).
- Need to get chassis early for system integration
- Require simulation & modeling work to verify concept .
- IAV BOIP for NBCRS
- IBCT IOC Timelines

# Applications of Obscurants for Enhanced Survivability in Complex Terrain

## **SITUATION**

- The Army Vision for an Interim and Objective Force will improve the deployability of the Army.
- These improvements may be offset by reduced survivability without new methods of protection.
- Obscurants employed by robotics may offer improved survivability of the Interim and Objective Force.

## **MISSION**

- Based on the need to improve survivability – particularly in urban and complex terrain – develop a robotic obscurant platform and determine utility via MSBL trials.
- Develop formal requirements if trial results warrant follow-on efforts.

## **EXECUTION**

- Experiment with Unmanned Ground Vehicle Rapid Obscuration Projectile (UGVROP)
- Resource approach.
- Conduct MSBL trials of UGVROP.
- Refine path forward; including formal requirement and formal program effort, if appropriate.

## **ISSUES**

- Determine viable cost, schedule and performance.
- Determine Key Performance Parameters, such as:
  - Employ common robotic chassis.
  - Employ common robotic vehicle communications.
  - Employ common obscurant systems.



















# Missile Defense NBC Post Effects

## **SITUATION**

- SAFEGUARD
  - Advanced Technology Demo
  - Airborne Standoff Chemical Vapor Detector
  - Successful UAV Integration (HUNTER)
- Ground Effects Model (GEM)
  - Uses PEGEM as a baseline
  - Automated Predictive tool for NBC TBM's
  - Tied into Air Defense systems (Patriot)
- Both ORDs in Primary/Secondary annex to the Theater Air and Missile Defense Capstone Requirements Document (TAMD CRD)

## **EXECUTION**

- Initial draft MS / ORD
- Congressional Interest at Ft. Riley, HUNTER Demo
- Working Future Tests @ FLW
- Partnering with EPA Region 7
- First flight 23NOV99
- Key part of new JMANS ACTD starting FY01 GEM
- Initial draft MS / ORD
- ORD being staffed for Joint Designation
- Dec 00 brief to JSIG WG

## **MISSION**

SAFEGUARD in near real time:

- Detect & Locate Chem Cloud
- Provide 2D Cloud Display
- Vapor Cloud Identification
- Vapor Cloud Quantification
- 3.5Km Swath @ 10000 feet
- Quantify Airborne Chemical Hazards GEM
- Warn and Dewarn of NBC contamination
- Define area for NBC survey
- Tool for training/analyzing potential NBC attacks

## **ISSUES**

- POM wedge for FY04 and beyond funding
- JSAFEGUARD O&O as TTP
- Joint Service UAV platform integration
- Training @ FLW
- Joint Service/Warfighting CINC Support GEM
  - Who will operate (Chemical or ADA)
  - Link to tie into JWARN or other Battle Management systems

# Corps Redesign – Technical Escort

## **SITUATION**

- U.S. Army Technical Escort Unit (TEU) is being redesigned to enable it to meet current and emerging Chemical/Biological (CB) Defense missions envisioned by Combatant Commanders.
- TEU is the only DOD unit authorized to transport CM surety materiel worldwide.
- CJCS placed TEU on LD/HD list in 1998.

## **MISSION**

Redesign TEU, within the Force Design Update (FDU) 00-01 cycle window, to support the CINCs with the necessary structure to meet current and emerging CB defense missions and without exceeding OPTEMPO metrics as defined in the Global Military Force policy (GMFP).

## **EXECUTION**

- Prepare and Submit TEU FDU Issue to TRADOC to meet FDU 00-01 cycle window.
- Confirm Staffing of DTLOMS impacts in the Training Domain with the J5 Technical Escort School, Redstone, Alabama.
- Support TRADOC Force Design Directorate (FDD) requirements for supporting information.

## **ISSUES**

- Personnel Costs: Increase of 152 spaces (22/101/29).
- Active Chemical force structure cannot pay the bill.
- Equipment Costs: Initial cost of additional equipment is \$12.8 million.



# 13<sup>th</sup> CHEM (BIDS) ACTIVATION

## **SITUATION**

- SECDEF directed activation of 13<sup>th</sup> CHEM (BIDS) at Ft Hood, TX is being reviewed based on JBPDS OA test shortcomings.
- The JBPDS Production and Fielding Schedule will impact IOC.

## **MISSION**

- Force validate and surface issues that affect Activation.
- Work integration meetings with CMLS, DCSOPS, PM, FORSCOM, etc.

## **EXECUTION**

- A force validation meeting was held at ODCSOPS on 12 OCT to update the status of the fielding of JBPDS and the impact of delaying E-DATE.
- Follow-on linkage is key.
- JBPDS just awarded contract for LRIP.

## **ISSUES**

- 13<sup>th</sup> CM Co (BIDS) E-date extension?
- Personnel and equipment status?
- Training status?
- Installation support status?
- Readiness Reporting?
- JBPDS Timelines?

# Personnel Protection

## **SITUATION**

- Protection clothing/masks are heavy/bulky, provide limited hours of protection, causes undue heat stress, psychological and physiological effects, and has limited reuse.
- Requirement for a shelter for billeting, medical and operational facilities.
- Soldiers lack the ability to hydrate “on the move” during performance of mission.

## **EXECUTION**

- Conduct Soldier Hydration System Limited Objective Experiment (Results: 24/25 NCO’s prefer SHS vs. Canteen)
- Joint Service General Purpose Mask (MS099)
- Joint Service Lightweight Integrated Suit Tech.
- Joint Transportable Protective Shelter (MS 0-00)
- Joint Protective Air Crew ensemble (MS I/II-00)

## **MISSION**

- Design masks and clothing to be lighter, less bulky, reduce heat stress, psychological and physiological effects, provide protection from chemical, biological, and radiation threat, be durable, and launderable.
- Design modular, protective shelters which provides a transportable, free-standing system.
- Improved system for soldiers to hydrate in MOPP 4.

## **ISSUES**

- Unsat BDOs significantly increased the BDO Shortages; the fielding of JSLIST will move up in FY01
- No suitable material found which will meet ORD requirement for Improved C/B Protective Gloves.
- VCSA has concerns about mask maintenance; design vs. PMCS

# Decontamination

## **SITUATION**

- Decontamination methods and technologies have not kept up with the various roles and missions of the Army
- Decontamination systems currently are dependant on water and are resource intensive
- Decon capability has limited use and effectiveness for fixed sites and is non existent for sensitive equipment.
- Future decontamination systems do not address the full range of existing decon operations

## **MISSION**

- Seek technologies and capabilities not yet leveraged
- Provide awareness so the user becomes a more informed consumer
- Decontaminants, applicators and FDA approved decontaminant for skin.
- System to decon sensitive equipment; Aircraft/ Vehicle Interiors (stationary and “on-the move”).
- Design modular, protective shelters which provides a transportable, free-standing system.

## **EXECUTION**

- Decontamination Performance Demo. 3<sup>rd</sup> Qtr FY 01
- Joint Service Fixed Site Decon (MS0-1st Qtr 00)
- Joint Service Sensitive Equip Decon (MS0-99)
- Sorbent Decontamination System (MS III-00)
- Modular Decontamination System (MS III-01)

## **ISSUES**

- Pursuing regulations, documents, tasks, sequence of events necessary to conduct the demonstration
- Fielding for Modular Decon System may be further delayed due to continuing technical problems with the High Mobility Trailer and delays in contractor repair of equipment failure.
- Sorbent Decon System fielding delayed due to insufficient testing.

# Science and Technology (S&T) in Support of Objective Force Capabilities (OFC)

## **SITUATION**

Joint Nuclear, Biological, and Chemical (NBC) Defense and Army Obscurant future requirements are to be determined from DoD and Army guidance to meet the future operational mission, in support of the NMS.

## **EXECUTION**

- Received \$860K for CEP implementation to date.
- Coordinate and assess S&T Communities' ability to address future requirements (JFOCs & Army OFCs).
- Coordinate Tech Base programs to transition to RDT&E funded programs to support NBC Defense and Obscurant ORD requirements.

## **MISSION**

- Identify future NBC Defense and Obscurant mission needs and capabilities.
- Develop NBC Defense and Obscurant Future Operational Capabilities (FOCs).
  - Joint NBC Defense = JFOC
  - Army unique (Obscurants) = Integration into the OFCs (TRADOC PAM 525-66).
- Develop S&T support to articulate Chemical Corps' NBC Future Architecture, operational requirements and capabilities to support Army Transformation to the Objective Force.
- Assist in the technical aspects and development of MNS and ORD requirements.

## **ISSUES**

- Coordination between Joint NBC Defense funded programs with Army unique programs. Different POM funding, development, and controls.
- Alignment of POM Tech. Base funding to address the JFOCs and Army OFCs. S&T community prioritization, management and execution of the Tech Base do not always align with the JFOC and/or OFC priorities. Differing management, planning, control, and execution of Tech Base POM development and funding.

# Maneuver Support Concepts Integration

## **SITUATION**

- “Maneuver Support” recognized as a separate “Objective Force Capability” in Draft TRADOC Pam 525-66, *Objective Force Capability*--thus, a part of the Transformation strategy.
- “Maneuver Support is the means to gain and maintain freedom of maneuver and Force Protection”--economy-of-force.
- Concept is not yet vetted with proponent stakeholders--.

## **EXECUTION**

- Develop a draft concept.
- Brief TRADOC senior leadership including proponent leadership.
- Conduct an Integrated Concept Team.
- Have a “60% solution” in place for the Spring Wargame. Make “MS Insights” a major evaluation issue.

## **MISSION**

- Fill a requirement for unhindered maneuver/shaping operations, local area and route security, and force protection within an area bounded by combat operations and sustainment operations.
- Develop a battlefield functional concept in cooperation with other proponent stakeholders.

## **ISSUES**

- Setting the working boundaries of the Maneuver Support construct--Lots of “fuzzy stuff “ left to define.
- Proponent buy-ins.
- Resourcing the ICT process.
- How do we institutionalize the Maneuver Support construct when we’re successful at setting the conditions?

# Organizational Reconstitution and Realignment

## **SITUATION**

- Review TRADOC FDIC construct
- “Common is good, stovepipe is bad.”

## **MISSION**

- Providing insight and recommendations on potential TRADOC FDIC construct.

## **EXECUTION**

- If required to execute, believe best approach is integrating Combat Developments, Doctrine, and Training by proponent, and then executing by mission area teams; such as NBC Recon, Decon, Obscurants, etc.
- Meets intent of “Common is good, stove pipe is bad.”

## **ISSUES**

- Personnel support for each proponent may be a mitigating factor
- Proponent School control of proponent Product
- Proponent School will still probably need a Commandants Planning & Integration Group

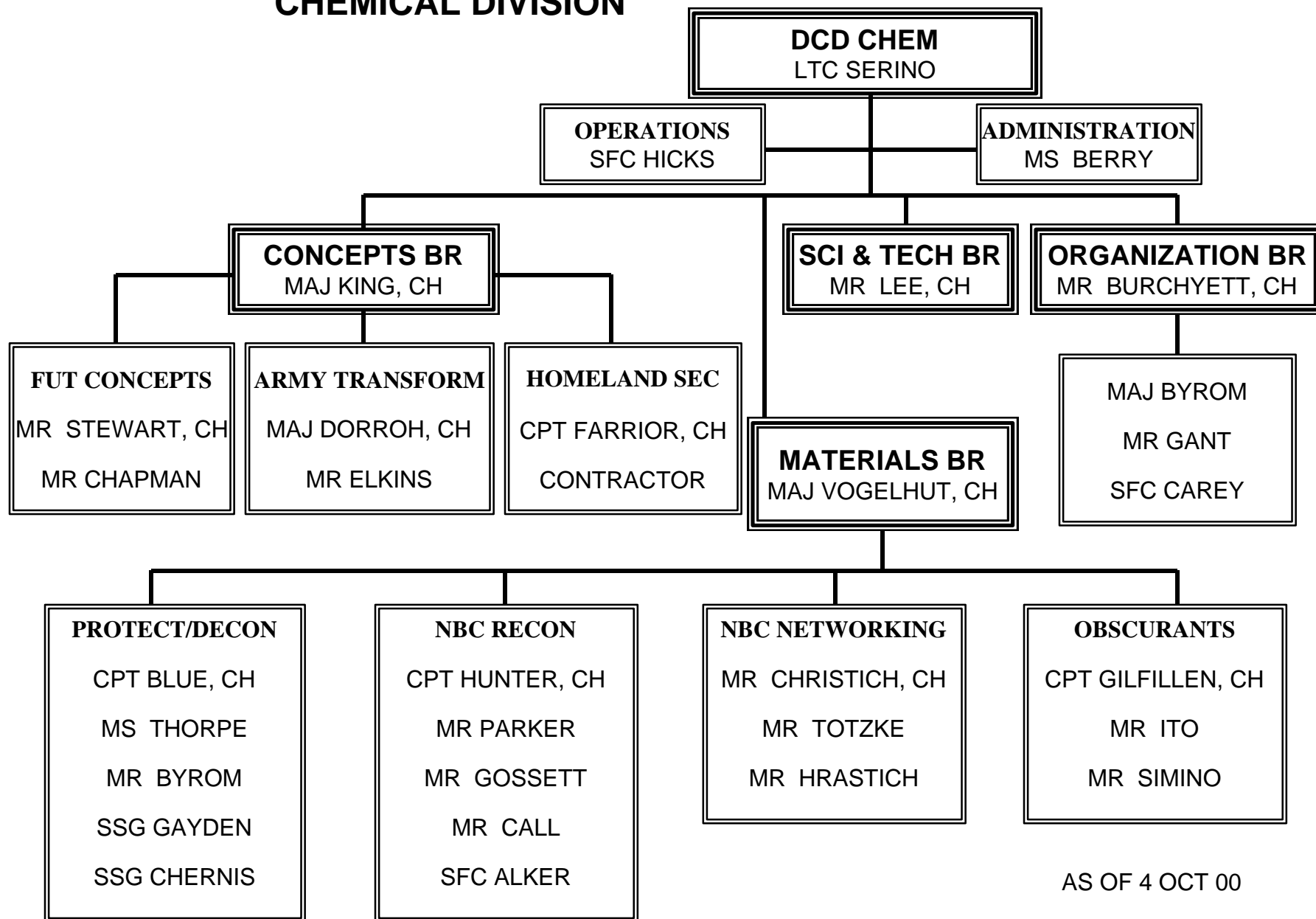
# MAJOR UNDER RESOURCED EFFORTS

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- Integration of Modeling/Simulations
- Homeland Security
- NBC/Medical Integration
- Foreign Comparison Testing
- Decon Performance Demonstration
- Review of Non-Proponent Documentation (ORD/MNS, TOE, etc)
- Collective Protection/Overpressure
- Non-Lethals/Riot Control
- Soldier Enhancement Programs
- Large Area Obscurants
- Nuclear/Radiation Detection

# MANSCEN DCD

## CHEMICAL DIVISION



AS OF 4 OCT 00